

## A NEW SONORELLA FROM ARIZONA.

BY S. S. BERRY.

Mr. George Willett has sent in specimens of a *Sonorella* from Gila County, Arizona, which do not seem referable to any of the described species. A diagnosis is accordingly offered below.

## SONORELLA ROOSEVELTIANA new species.

The shell is depressed. In the type the spire is low conoidal, but in some specimens is higher, while in others is raised but little above the level of the principal whorl; umbilicate, the umbilicus contained about eight times in the major diameter; very thin and fragile. Whorls  $4\frac{1}{4}$  to  $4\frac{1}{2}$ . Embryonic whorls a little less than  $1\frac{1}{2}$ , the initial half-whorl very finely, irregularly, radially, wrinkled-costulate, the wrinkles becoming finer and more wavy in the following whorl, where they are crossed by a series of fine, delicate, raised lines, passing obliquely downward and forward from the summit of the whorl to the suture, the sculpturing sometimes showing with beautiful regularity over most of the whorl. Yet when a series of shells is examined the finer sculpturing shows great variation. Frequently the incised lines are more or less interrupted, especially near the summit, into elongate papillae which later coalesce. Sometimes lines or papillae are evident running in a direction counter to those just described and intersecting them. Above the summit, where the wrinkly lines of growth come closer together, the appearance is more granular and less distinct, but occasional traces of similar lines apparently pass obliquely downward (actually *upward* on account of the depression of the whorl at the suture) and backward from the superior suture to the summit. In most of the specimens the fine wrinkling becomes almost granulose. The next whorl-and-three-quarters show irregular growth-lines crossed obliquely by lines of minute papillae, though I can make out no bristles with the aid of such magnifying power as happens to be by me. The last whorl is apparently smooth except for the lines of growth. This whorl is moderately wide and descends slightly in front. The aperture

is subcircular and very oblique. The peristome is thin, its margin only slightly thickened and scarcely at all expanded or reflexed except at the base. There is an excessively delicate parietal callus. The type measures, alt. 8, major diam. 16.5, lesser diam. 14 mm. ; diam. of umbilicus 2 mm. ; aperture 8 x 8 mm.

Largest specimen, alt. 11, major diam. 19 mm.

Smallest adult, alt. 7, major diam. 15 mm.

*Type*: Cat. No. 3733 of the writer's collection. A paratype is Cat. No. 117086 of the Academy of Natural Sciences of Philadelphia, and another is in the collection of George Willett.

*Type Locality*: Roosevelt, Gila County, Arizona; in rock slides on north slopes, 2200 ft. altitude. 31 specimens examined, taken by Mr. George Willett, December 15, 1914, and November 1916.

*Remarks*: Although the shell characters of this modest species offer no very striking peculiarities, I have been unable to identify it with any of the sixty or so described members of the genus. There is apparently no end to the Arizonan Sonorellas. As compared with the other species of which I have seen specimens, *S. rooseveltiana* seems more than usually thin and fragile. The general proportions of the shell, as the spire, aperture, and so on, are quite variable.

Some of Mr. Willett's shells have found their way into other collections as *S. coloradoensis* Stearns, from the figures a quite different species.

*Redlands, California.*

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THE DISTINCTIVE CHARACTERS OF *LAMPSILIS MINOR* AND  
*L. VILLOSA*.

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BY T. VAN HYNING.

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In sending out specimens of the *Unionidae* of Florida from the Florida State Museum, we have stated of *Lampsilis villosa* B. H. Wright, and *Lampsilis minor* Lea, that it was impossible to differentiate with certainty all of the adult specimens; this